

## ADDITIONS TO THE FLORA OF THE ISLAND OF NEWFOUNDLAND

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### ABSTRACT

Recent collections from Newfoundland have added the following vascular plant species to the native flora of the Island: *Brasenia schreberi*, *Carex tonsa*, *Dactyloporhiza*, *Isoetes acadensis*, *Lysimachia thyrsiflora*, *Myriophyllum farwellii*, *Potamogeton foliosus* var. *foliosus*, *Prenanthes racemosa*, *Sagittaria latifolia*, *Viola lanceolata*, and *V. ×sublanceolata*. Other novelties, including *Aster ciliolatus*, *Carex arcta*, *Eleocharis kamtschatica*, *Goodyera oblongifolia*, *Juncus subcaudatus*, and *Ranunculus lapponicus* are based on revisions of herbarium material. Significant changes to the known distribution of *Potamogeton spirillus* and *Utricularia purpurea* are also discussed. Additions based on published literature reports are also compiled for *Acorus americanus*, *Atriplex franktonii*, *A. praecox*, *A. subspicata*, *Carex cumulata*, *C. saxilittoralis*, *Euphrasia salisburgensis*, *Juncus ambiguus*, *Listera ×veltmanii*, *Potentilla bipinnatifida*, *Potamogeton strictifolius*, *Puccinellia ambigua* and *Sagina nodosa* ssp. *nodosa*.

Key Words: vascular plant flora, additions, Newfoundland

### INTRODUCTION

A comprehensive guide to the flora of Newfoundland has yet to be published. A first checklist of the vascular flora was compiled by E. Rouleau in 1949, followed by revised versions in 1956 and 1978. These lists comprise not only the flora of the island, but also comparative listings for Labrador and the adjacent French islands of St.-Pierre et Miquelon. They were based on that author's intensive research of records in major American and European herbaria, as well as his own extensive collecting on the Island from 1948 to 1972. Scott (1977) also published an updated checklist based largely on Rouleau's work.

Research on the flora of the west coast of the Island, particularly in Gros Morne National Park, has already contributed new additions to the flora, such as *Lycopodium alpinum* L. (Bouchard and Hay, 1974) and *Thelypteris limbosperma* (All.) H. P. Fuchs [syn.: *Oreopteris quelpaertensis* (C. Chr.) Holub] (Bouchard and Hay, 1976). Recent field studies, as well as examination of herbarium specimens and literature records made largely in the course of our research on the rare plants of the Island, have resulted in a number of new records which represent new additions to the flora of the province as compiled in Rouleau's list of Newfoundland plants (Rouleau, 1978).

In this paper we discuss eleven new records based on recent field collections. Six other novelties are the result of revisions of specimens in major herbaria with Newfoundland collections (CAN, CDFN, DAO, GH, MT, NFLD). Attention is drawn to two species that were previously known from only a single locality on the Island, but whose distribution has been substantially changed by our collecting. Fourteen additions or corrections are based on reports drawn from different sources, already published in the literature, but not included in Rouleau (1978).

Our comments are made with regard only to native species with the exception of *Dactylorhiza*, *Euphrasia salisburgensis* and *Sagina nodosa* ssp. *nodosa*, all of which appear to have been introduced from Europe.

Numerous species, most of which are based on doubtful literature records or misidentified herbarium specimens, may be excluded from the flora. These are being compiled in a forthcoming edition on the rare vascular plants of the Island of Newfoundland.

Botanists who are aware of other additions or deletions to the flora are encouraged to communicate their findings to us.

#### ADDITIONS BASED ON RECENT COLLECTIONS

##### ***Brasenia schreberi* Gmel.**

This mainly eastern North American species ranges southward from the Gaspé and Nova Scotia to Florida, and inland to the Mississippi River basin. Sporadic occurrences further to the west, and elsewhere throughout the world, as well as fossil evidence, seem to indicate a much reduced present-day range from a former cosmopolitan Tertiary distribution (Raymond and Dansereau, 1953). The recent discovery of this distinctive aquatic plant in an oligotrophic pond north of Bonne Bay in Gros Morne National Park constitutes the northernmost locality in eastern North America (map, Fleurbec, 1987).

SPECIMENS. St. Barbe South Distr.: Berry Hill, Buck Pond, 1989/07/25, *Bouchard & Hay 89291* (CAN, MT).

##### ***Carex tonsa* (Fern.) Bickn.**

*Carex tonsa* [syn.: *C. umbellata* Schk. ex Willd. var. *tonsa* Fern., *C. rugosperma* Mack. var. *tonsa* (Fern.) E. Voss] has not been

reported from Newfoundland, although the closely related *C. abdita* Bickn. (syn.: *C. umbellata sensu* Mack., non Schk. ex Willd.) is known from the Island (Robertson, 1984; Rouleau, 1978). There is some disagreement about the circumscription of these taxa (Gleason, 1963), but *C. tonsa sensu str.*, with its stiff, thick, rigid leaves and glabrous (or nearly so) perigynia, appears quite distinctive. It has been recently collected from two localities in north-central Newfoundland, where its habitat of dry, open siliceous soils is encountered.

SPECIMENS. Bonavista North Distr.: Pine Acres, Grants Siding, 1988/07/20, Bouchard, Hay & Brouillet 88091 (CAN, MT). Green Bay Distr.: Davis Brook, Springdale, 1988/07/25, Bouchard, Hay & Brouillet 88219 (CAN, MT).

### Dactylorhiza

*Dactylorhiza* is an extremely variable orchid genus of at least thirty species and many hybrids and intermediate forms, found primarily in the Old World (Case, 1987; Luer, 1975). Only two species have been reported to occur in North America, *D. aristata* (Fischer) Soó, in the Aleutians and the Alaskan Peninsula, and *D. maculata* (L.) Soó, widespread in Europe and believed to be adventive at a single locality near Timmins in northern Ontario (Case, 1987; Luer, 1975; Whiting and Catling, 1986). A small population of 10 plants of this genus was found recently at Tilt Cove in a springy area along a small brook near ruined house foundations in the abandoned mining town. They were probably introduced as garden plants from Europe when the copper mine was active (1864–1946, British financial interests), and have persisted locally. With photographs taken in the field, and comparison of the collections with European herbarium specimens, the plants have been tentatively identified as belonging to the *D. incarnata* (L.) Soó species complex. Unlike the Ontario plants, which have been placed in the *D. maculata* complex, the Tilt Cove specimens have hollow stems, unspotted lanceolate basal leaves, and distinctly suberect lateral sepals. This would be the first report of the *D. incarnata* group in North America. There is much confusion in recognition of species in the dactylorchids; their complex taxonomy has been discussed recently by Bateman and Denholm (1985, 1988).

SPECIMENS. Green Bay Distr.: Tilt Cove, 1988/07/26, Bouchard, Hay & Brouillet 88282 (CAN, MT).

**Isoetes acadiensis** Kott

This quillwort was described as a new species from eastern Canada by Kott (1981). It is known from New England, New Brunswick and Nova Scotia. Recent collections and revision of herbarium material from the Salmonier area by D. Britton have added this relatively unknown aquatic species to the flora of Newfoundland.

SPECIMENS. St. Mary's Distr.: Salmonier, 1965/08/13, *Rouleau & Smith 9843* (MT), Salmonier River: 1981/08/10, *Britton & Medhurst 8596B* (OAC); 1982/07/28, *Britton & Anderson 9011a* (OAC). Deer Park, Oxley's Pond, 1982/07/28, *Britton & Anderson 9019b* (OAC).

**Lysimachia thyrsiflora** L.

This wide-ranging, circum-temperate species was discovered recently along the banks of the Upper Humber River, near Deer Lake. The northeastern limit of this taxon in the Gulf of St. Lawrence is on adjacent Anticosti Island, at a similar latitude. It has been reported further north from Goose Bay, Labrador, but Rousseau (1974) refuted this claim. Other rare species found along the Upper Humber River at the same locality include *Alisma plantago-aquatica* L., *Callitriche hermaphroditica* L., *Myriophyllum verticillatum* L., *Potamogeton foliosus* Raf., *P. spirillus* Tuckerm., *Sagittaria latifolia* Willd., and *Utricularia purpurea* Walt.

SPECIMENS. Humber East Distr.: Deer Lake Park, 1972/07/17, *Green 1883* (CDFN). Upper Humber River, Deer Lake, 1988/07/28, *Bouchard, Hay & Brouillet 88328* (CAN, MT). Riedville, Upper Humber River, 1989/07/10, *Bouchard, Hay & Brouillet 89002* (CAN, MT).

**Myriophyllum farwellii** Morong

The distribution of this species of water milfoil is centered mainly around the Great Lakes region, but eastward it ranges from northern New England to Nova Scotia. Crow and Hellquist (1983) first mentioned its presence in Newfoundland on the basis of their discovery of it at a single locality on the Avalon Peninsula. It was found growing at the margin of an acidic pond in a sphagnum bog.

SPECIMENS. Harbour Main Distr.: Avalon Peninsula, east of Whitbourne: 1979/

07/08, Crow & Hellquist 13361 (NASC); 1988/07/15, Bouchard, Hay & Brouillet 88034 (CAN, MT).

### **Potamogeton foliosus Raf. var. foliosus**

This taxon has a transcontinental temperate range, although it occurs sporadically as far north as Alaska and Great Slave Lake (map, Haynes, 1974). It has been found at only one locality in Newfoundland, which represents the northeastern limit of the range. The plants were growing in shallow, dead waters along the Upper Humber River, along with other rare aquatics including *Callitriche hermaphroditica*, *Myriophyllum verticillatum*, *Potamogeton spirillus* and *Utricularia purpurea*. The specimens were mixed with collections of *P. pusillus* L. var. *tenuissimus* Mert. & Koch, as determined by B. Hellquist.

SPECIMENS. Humber East Distr.: Upper Humber River, Deer Lake, 1988/07/28, Bouchard, Hay & Brouillet 88317a (MT, NASC).

### **Prenanthes racemosa Michx.**

Fernald (1925) included *P. racemosa* among the Cordilleran elements disjunct to the Gulf of St. Lawrence. It is now known to have a transcontinental boreal distribution (Scoggan, 1978–79). In Newfoundland it was recently discovered near Corner Brook, in a fen with other rare species such as *Cypripedium reginae* Walt. and *Valeriana septentrionalis* Rydb. The closest localities, at the northeastern limit of the range of the species, are found on the Québec North Shore (Lavoie, 1984).

SPECIMENS. Humber East Distr.: Wild Cove, 1987/08/07, Brouillet & Saucier 87582 (CAN, MT).

### **Sagittaria latifolia Willd.**

In eastern North America, this species ranges along the Atlantic coastal plain, occurring sporadically in the southeast and then continuously from Virginia north to Nova Scotia. It is frequent inland as far as the Midwest, from where the range is disrupted to the Pacific coast (map, Bogin, 1955; Fleurbec, 1987). It was first reported in Newfoundland from a marsh near Stephenville (Mann, 1986). Additional stations have recently been found along

the marshy banks of the Upper Humber River near Deer Lake. These are the northernmost localities on the eastern seaboard.

**SPECIMENS.** Humber East Distr.: Upper Humber River, Deer Lake: 1988/07/28, *Bouchard, Hay & Brouillet 88308, 88327* (CAN, MT); 1989/07/10, *Bouchard, Hay & Brouillet 89001* (CAN, MT). Port au Port Distr.: Stephenville Crossing, Little River, 1986/08/06; *Mann s.n.* (NFLD).

### ***Viola lanceolata* L.**

This species occurs mainly in the Great Lakes–St. Lawrence region, the eastern coastal states and the Maritimes (map, ssp. *lanceolata*, Russell, 1965). Although known from the adjacent French islands of St.-Pierre et Miquelon (LeGallo, 1954), it has not been reported previously from Newfoundland. It has been collected at two localities at the head of Placentia Bay where it was found growing on the open moist sandy floodplains of two rivers, hybridizing freely with *V. pallens* (Banks) Brainerd (see discussion under *V. × sublanceolata*).

**SPECIMENS.** Placentia West Distr.: Sandy Harbour River: 1972/08/25, *Rouleau & Rast 11315* (MT); 1988/07/16, *Bouchard, Hay & Brouillet 88046* (CAN, MT). Trinity North Dist.: Piper's Hole River, 1983/07/04, *Favreau s.n.* (NFLD).

### ***Viola* × *sublanceolata* House**

*Viola pallens* (syn.: *V. macloskeyi* Lloyd var. *pallens* (Banks) Hitchc.) and *V. lanceolata* ssp. *lanceolata* are known to produce a usually sterile F<sub>1</sub> hybrid. Russell (1965) reported such hybrid plants from Minnesota, Wisconsin, Michigan, and New England, and it is known from southern Ontario and Québec (Scoggan, 1978–79). In Newfoundland, it was recently found growing in a mixed population with the parent species.

**SPECIMENS.** Placentia West Distr.: Sandy Harbour River, 1988/07/16, *Bouchard, Hay & Brouillet 88051* (CAN, MT).

#### ADDITIONS BASED ON REVISIONS OF (MISIDENTIFIED) HERBARIUM SPECIMENS

### ***Aster ciliolatus* Lindl. ex Hook.**

The only specimens of this species from Newfoundland constitute the type collection of *A. foliaceus* Lindl. var. *subgeminatus*

Fern. (Fernald, 1915). The latter taxon is not mentioned in Fernald (1950), Scoggan (1978–79, who also specifically states “*A. ciliolatus* . . . not known from Nfld . . .”), nor Gleason and Cronquist (1963). Boivin (1948) elevated it to species rank (*A. subgeminatus* (Fern.) Boivin), while Jones (1980) expressed the opinion that the latter is a nothotaxon and represents the hybrid *A. tardiflorus* × *ciliolatus* (*Aster tardiflorus* was later placed by Jones in *A. novi-belgii* ssp. *tardiflorus*). Boivin (1966–67) and Rouleau (1956, 1978) mentioned *A. subgeminatus* as occurring in Newfoundland, but not *A. ciliolatus*. However, Fernald (1949) recognized the relationship of var. *subgeminatus* to *A. ciliolatus*: “var. *subgeminatus* . . . being the endemic western Newfoundland representative of *A. ciliolatus* . . .,” a statement missed by all floristicians subsequently dealing with the Newfoundland flora who apparently associated the variety to *A. novi-belgii* (and its synonyms *A. foliaceus* auct., *A. subspicatus* auct., *A. johannensis*, etc.). In the course of a biosystematic study of *A. novi-belgii* in the northeast (Labrecque, 1990, mém. M.Sc., Univ. de Montréal), the type of var. *subgeminatus* was examined and determined to be within the range of variation of *A. ciliolatus* (Brouillet, 1981, Ph.D. thesis, Univ. of Waterloo), and not a hybrid with *A. novi-belgii*, even though the latter is abundant in the area. In Newfoundland *A. ciliolatus* is very rare, being known from a single locality and not collected since 1910.

SPECIMENS. Port-au-Port Distr.: Table Mountain, 1910/08/16, Fernald, Wiegand & Kittredge 4126 (GH).

### **Carex arcta** Boott

This mainly boreal North American sedge is known from only one locality in the Long Range Mountains. Originally misidentified and distributed as *C. brunnescens* (Pers.) Poir., the proper identity of this herbarium sheet has been recognized only recently.

SPECIMENS. St. Barbe South Distr.: Highlands of St. John's, Doctor Hill, 1929/07/31, Fernald, Long & Fogg 1395 (GH, MT).

### **Eleocharis kamtschatica** (C. A. Meyer) Komarov

Specimens belonging to the *Eleocharis uniglumis* complex have been collected from two localities on the limestone barrens along the northwest coast of the Island. The material was originally

misidentified as *E. pauciflora* (Lightf.) Link and *E. halophila* (Fern. & Brack.) Fern. & Brack. Both collections are immature; however, they can be assigned with certainty to the *E. uniglumis* complex (P. Ball, pers. comm.). Although Fernald (1950) had reported *E. uniglumis* (Link) Schultes for Newfoundland, Svenson (1947) discounted the specimen (Blomidon Mountains; *Fernald & Wiegand* 2706, GH) stating that the collections "are not uniglumate at all, and . . . perfectly typical *E. smallii* Britt." Nearly identical collections from a similar habitat in eastern Québec (Rivière Romaine; *Marie-Victorin & Rolland-Germain* 20165, MT) have been referred to *E. kamtschatica* (Dutilly et al., 1958; Svenson, 1947), an amphi-Beringian species with disjunct localities eastward in northern Ontario (James Bay), Québec and Labrador (Ball and White, 1982). We are tentatively referring the Newfoundland collections to this taxon.

SPECIMENS. St. Barbe South Distr.: Pointe Riche, 1929/07/24, *Fernald, Long & Fogg* 1338 (GH, MT). Portland Creek, Eastern Head, 1974/07/14, *Hay & Bouchard* 7472 (CAN, MT).

### ***Goodyera oblongifolia* Raf.**

This species is primarily a western taxon with disjunct eastward centers of distribution around the Great Lakes and in southern Québec. Isolated populations occur in New Brunswick, Nova Scotia and Vermont (map, Kallunki, 1976). It is very rare in Newfoundland where it is now known from a single locality at Serpentine Lake. The specimen was misidentified as *G. tessellata* Lodd. This addition represents an important extension to the northeastern extreme of the species range.

SPECIMENS. Humber West Distr.: Serpentine Lake, 1955/08/10, *Rouleau* 4086 (MT, NFLD).

### ***Juncus subcaudatus* (Engelm.) Coville & Blake**

In North America *J. subcaudatus* is found mainly in the central part of the Atlantic coastal plain from where its range extends southward through the Appalachian uplands to northern Georgia, and northward to disjunct southern Nova Scotia (Hay, 1984). The Nova Scotian plants have been segregated as an endemic variety, *var. planisepalus*, by Fernald (1921). A revision of herbarium material from the Maritimes has revealed new outlying

locations in Newfoundland and St.-Pierre et Miquelon, which represent an important extension to the northeast of the species' known distribution. These localities are widely scattered on the Island, a pattern shared by several of the coastal plain elements such as *Bartonia paniculata* (Michx.) Muhl., *Hudsonia ericoides* L., *Juncus militaris* Bigel. and *Schizaea pusilla* Pursh.

SPECIMENS. Grand Falls Distr.: Grand Falls: 1911/08/11, *Fernald, Wiegand & Darlington 5127* (GH, MT); Exploit's River, 1911/08/12, *Fernald, Wiegand & Darlington 5128* (GH). Green Bay Distr.: Sheffield Lake, Southwest Brook, 1951/08/16, *Rouleau 2512* (DAO, MT). St. Mary's Distr.: Peters River, 1949/09/17, *Rouleau 5156* (MT).

### **Ranunculus lapponicus** L.

*Ranunculus lapponicus* has a general subarctic-boreal circum-polar range. In eastern North America it is found sporadically throughout northern and central Québec/Labrador with isolated, rare occurrences southward in New Brunswick and Maine. A revision of herbarium specimens has revealed a new locality in Newfoundland in the highlands southeast of Deer lake.

SPECIMENS. Humber East Distr.: Grand Lake, mountain top, 1956/07/25, *Wilton 302* (CDFN).

#### NOTEWORTHY CHANGES TO KNOWN DISTRIBUTIONS

### **Potamogeton spirillus** Tuckerm.

Ranging from Nova Scotia through New England and the Middle Atlantic States to the Great Lakes (map, Reznicek and Bobbette, 1976), this easily overlooked pondweed has been previously recorded only from Grand Falls, where it was collected by Fernald in 1911. We have recently expanded its distribution on the Island with several widespread collections.

SPECIMENS. Humber East Distr.: Upper Humber River: Deer Lake, 1988/07/28, *Bouchard, Hay & Brouillet 88320* (MT); Riedville, 1989/07/10, *Bouchard, Hay & Brouillet 89005* (CAN, MT). Grand Falls Distr.: Grand Falls, Rushy Pond: 1911/08/11, *Fernald, Wiegand & Darlington 4492* (CAN, GH); 1988/07/22, *Bouchard, Hay & Brouillet 88147* (CAN, MT). Gander Distr.: Exploit's River, Bishop's Falls, 1988/07/23, *Bouchard, Hay & Brouillet 88189* (CAN, MT). Fortune Bay Distr.: Northwest Gander River, 1988/07/23, *Bouchard, Hay & Brouillet 88174* (MT), *88177* (CAN, MT, NASC).

**Utricularia purpurea** Walt.

*Utricularia purpurea* ranges from Newfoundland and Nova Scotia, west to southern Ontario, northern Indiana, Michigan and Wisconsin, and south along the Coastal Plain to Florida, Louisiana and Texas (Crow and Hellquist, 1985). This rare bladderwort has been recorded only from around Colinet (St. Mary's Distr.) on the Avalon Peninsula (Smith, 1966). Our collections from several widespread stations rectify this misconception.

SPECIMENS. Humber East Distr.: Upper Humber River, Deer Lake, 1988/07/28, *Bouchard, Hay & Brouillet 88309* (MT). St. Mary's Distr.: Island Pond, Colinet, 1965/08/13, *Smith 320* (MT, NFLD); 1965/09/20, *Smith 368* (NFLD), *369* (NFLD), 1969/04/13, *Smith 455* (NFLD); 1988/07/14, *Bouchard, Hay & Brouillet 88027* (CAN, MT). Salmonier Line, no date, *Wells 1774* (CDFN). Fortune Bay Distr.: Harbour Breton Road, Conne River, 1989/07/18, *Bouchard, Hay & Brouillet 89275* (CAN, MT).

## ADDITIONS BASED ON REPORTS IN PUBLISHED LITERATURE

**Acorus americanus** (Raf.) Raf.

This taxon, which was recognized in Newfoundland by Packer and Ringius (1984) and which is known from only one locality on the Grand Codroy River, had been reported previously as *A. calamus* L. (Rouleau, 1978). The latter taxon is the sterile European triploid which has been introduced sporadically in North America, but apparently not in Newfoundland. *Acorus americanus* is the correct name for the fertile diploid species in North America (Packer and Ringius, 1984).

**Atriplex franktonii** Taschereau

This species was reported by Basset et al. (1983) in the region of Bay Roberts, Conception Bay. However, P. Taschereau (pers. comm.) expressed doubt about the validity of this report and we have been unable to substantiate it. *Atriplex franktonii* is restricted to coastal beaches of New Brunswick, Prince Edward Island and Nova Scotia (Taschereau, 1972).

**Atriplex praecox** Hülphers

This species is a poorly understood amphi-Atlantic taxon which has only recently been reported from several widely scattered

coastal localities in Newfoundland by Thannheiser (1981, 1984), and which has only been recently recognized in the flora of the Maritime Provinces (Bassett et al., 1983). The specimens were identified by P. Taschereau.

### ***Atriplex subspicata* (Nutt.) Rydb.**

This species was only recently recognized in eastern North America (Taschereau, 1972). It occurs along the Atlantic coast from the St. Lawrence River south to Massachusetts and inland in western Canada and United States. Some collections in Newfoundland that heretofore have been assigned to *A. patula* L. or *A. patula* var. *hastata* A. Gray, have been treated as *A. subspicata* by Bassett and Crompton (1973), Bassett et al. (1983) and Thannheiser (1981, 1984). It occurs at several widely scattered coastal localities.

### ***Carex cumulata* (Bailey) Mack.**

This east-temperate member of the section *Ovales* ranges from southern Manitoba to Nova Scotia and southward from Michigan to New Jersey. Not previously known from Newfoundland, it has been recorded by Robertson (1984) from a single locality (Gambo, Bonavista North Distr.), where it may have been introduced. Confusion in delineating segregates in the complex surrounding *C. cumulata* led Boivin (1979) to regroup this species with *C. brevior* (Dewey) Mack. We have not been able to verify the voucher specimen.

### ***Carex saxilittoralis* A. Robertson**

Endemic to Atlantic Canada, this diminutive sedge of the *Carex viridula* group was first discovered and described by Robertson (1980) on the basis of specimens from coastal limestone gravels at Bellburns, St. Barbe South Distr. It is known at several coastal localities around the Island (map, Crins and Ball, 1989; Robertson, 1984). In a recent study of the *Carex flava* complex, Crins and Ball (1989) reduced it to the rank of variety under *Carex viridula* Michx. ssp. *brachyrrhyncha* (Celakovsky) B. Schmid. Further work is required to improve our understanding of this taxon,

and it may prove to be a local ecotype (Ball, pers. comm.; Crins, pers. comm.).

**Euphrasia salisburgensis** Funk var. **hibernica** Pugsl.

The distribution of this species is confined almost entirely to Ireland, except for a single North American locality, the justification of which rests solely on specimens from Daniel's Harbour, St. Barbe South Distr., collected in 1861 by J. Richardson (CAN). In their treatment of this genus, Sell and Yeo (1970) expressed some misgivings about the origin of the specimen.

**Juncus ambiguus** Guss

In Newfoundland, this coastal halophyte has been known as *Juncus bufonius* L. var. *halophilus* Fern. & Buch. In their treatment of the *J. bufonius* aggregate, Cope and Stace (1978) treated this variety as conspecific with *J. ambiguus*, a distinct species occurring in coastal and brackish habitats throughout Europe, North Africa, Asia and North America.

**Listera** × **veltmanii** Case

Catling (map, 1976) reported this rare hybrid at sporadic localities from Lake Superior to Newfoundland. The three widely separated stations on the Island are the only records.

**Potentilla bipinnatifida** Dougl. ex Hook.

This octoploid member of the *P. pensylvanica* complex was mapped by Kohli and Packer (1976) as occurring in Newfoundland. The reference collections cited were those of Waghorne, made in 1895 from the Bay of Islands. These specimens, and other collections of what is presumably the same taxon from elsewhere in western Newfoundland (St. Barbe North, St. Barbe South, Humber West, White Bay North), have been recorded in the flora as *P. pectinata* Raf. (*nom. illeg.*), or more recently as *P. pensylvanica* L. var. *litoralis* (Rydb.) Boivin (syn.: *P. pensylvanica* var. *pectinata* (Raf.) Lepage). The latter is an essentially eastern coastal calciphile, occurring erratically westward as far as Lake Athabasca. It is quite distinct from *P. bipinnatifida*, a strictly

western taxon. We adhere to this interpretation as resumed by Boivin (1967–68), and espoused by current authors. The report of *P. bipinnatifida* is unfounded.

### **Potamogeton strictifolius** Benn.

This species is primarily of the Great Lakes region, although it extends sporadically as far west as Mackenzie Distr., Northwest Territories (map, Haynes, 1974). In Newfoundland it is known only from alkaline waters on limestone bedrock near Flower's Cove, St. Barbe North Distr. Originally the specimens that Fernald collected served as the type material for the description of *P. longiligulatus* Fern. (Fernald, 1932); these specimens have recently been revised to *P. strictifolius* (Hellquist and Crow, 1986). The Newfoundland population represents a slight disjunction in the range toward the northeast.

### **Puccinellia ambigua** Th. Sørensen.

As defined by Sørensen (1953), this is an endemic saltmarsh species of the Hudson Bay–James Bay region, and the Gulf of St. Lawrence. The tentative opinion of J. Davis (pers. comm.) is that it represents a variant of the more widespread *P. pumila* (Vasey) Hitchc., perhaps deserving of varietal status. In Newfoundland it has recently been reported from the west coast by Thannheiser (1981, 1984). The specimens were identified by M. Barkworth.

### **Sagina nodosa** (L.) Fenzl

In Newfoundland this species has been reported as *S. nodosa sensu lato* (Rouleau, 1978), or with two infraspecific taxa: var. *nodosa* and var. *pubescens* (Besser) Mert. & Koch (Boivin, 1966–67; Scoggan, 1978–79). The monograph of the genus by Crow (1978) has shown that two distinct taxa are in fact present but that a name change is required: *S. nodosa* ssp. *nodosa*, to which var. *pubescens* is relegated as a synonym, and secondly, *S. nodosa* ssp. *borealis* Crow. The former appears to have been introduced from Europe, and is now found on the Atlantic coast from Massachusetts to Newfoundland, while the latter is the native subspecies, widespread on shoreline habitats throughout boreal northeastern North America and northern Europe (Crow, 1978).

**Salix ballii** Dorn

Rouleau (1978) reported *S. myrtillifolia sensu lato* for the Island; however, Dorn (1975) recognized two species in this complex: *S. ballii* (syn.: *S. myrtillifolia* var. *brachypoda* Fern.) and *S. myrtillifolia sensu str.* The latter is a mainly western taxon ranging from Alaska to northern Ontario, with disjunct occurrences eastward in Québec (Gaspé, Anticosti), New Brunswick and northwestern Newfoundland. Only four localities are known for the Island; all are on the Strait of Belle Isle coast. Two of these localities were reported by Dorn and the other two are sites of recent collections by G. Argus. *Salix ballii*, which is also rare in Newfoundland, is more widespread on the limestones of the west coast. Endemic in eastern Canada, it ranges from Hudson Bay (Ontario, Québec) to the Gulf of St. Lawrence (maps, Dorn, 1975).

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